SEPTEMBER 1961 50 CENTS

COUNTY AGENT VO-AG TEACHER

THE LEADING MAGAZINE FOR AGRICULTURAL LEADERS

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313 N. First St.
Ann Arbor, Michigan

Plows of the future... designed with Space Age computers

International Harvester engineers eliminate cut-and-try plow design

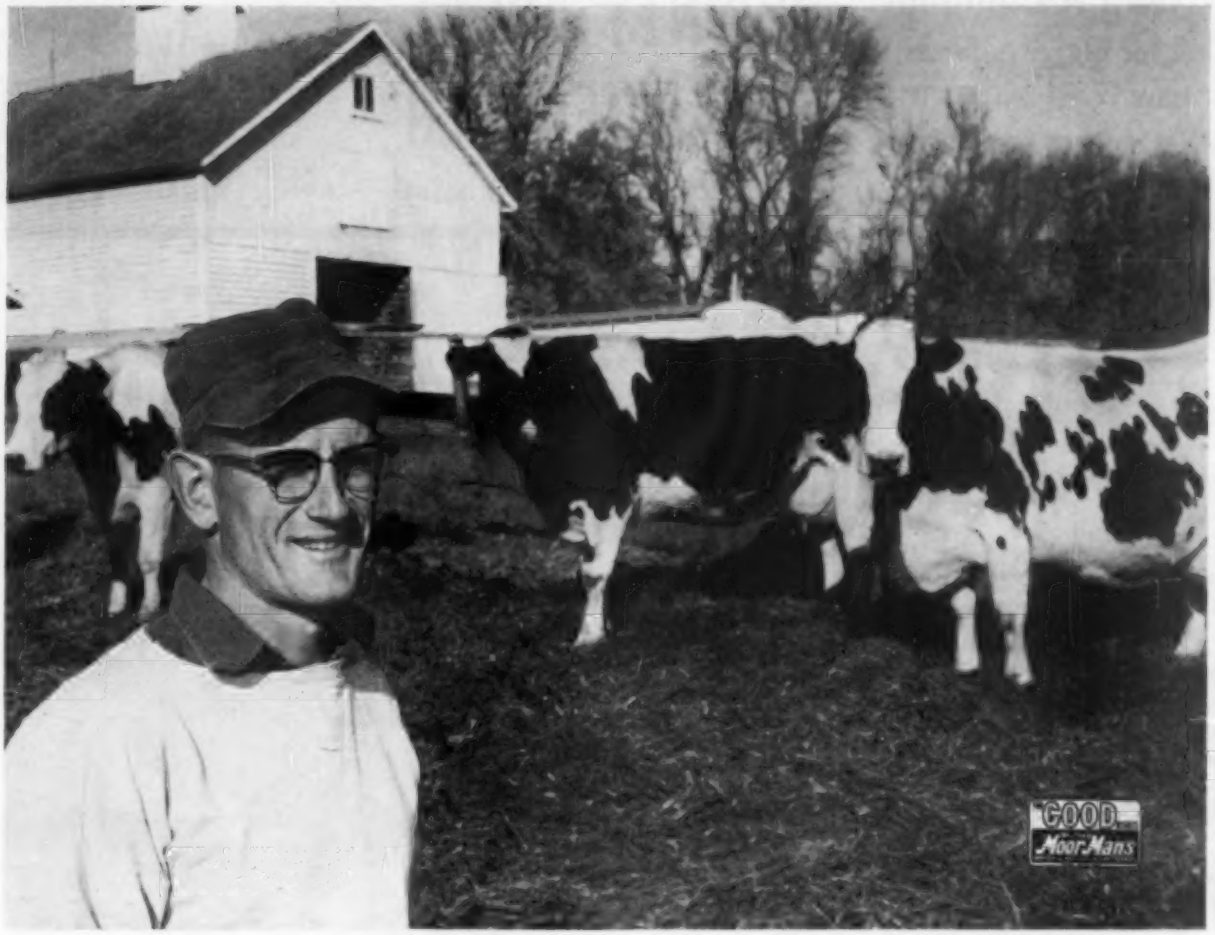
Now, Electronic Brains are helping to design plow moldboards as well as moon rockets! By perfecting a mathematical system for plotting moldboard curvature, IH engineers have eliminated cut-and-try development time . . . saved years of field testing.

Electronic computer—the key. The mathematics of a moldboard would take one "slide rule engineer" better than a year to figure. But the computer, with a potential of 60,000 operations *per second*, supplies all the needed data in a couple of hours. Therefore, the computer quickly plots the best curvature for top plowing efficiency. Through this scientific approach, IH is prepared to put the most advanced moldboards in the field first!

This is just one of hundreds of projects carried on at International Harvester's Farm Equipment Research and Engineering Center, Hinsdale, Illinois. This ultra-modern center has the scientific tools and a staff of over 1,500 specialists to create the newest and finest farm equipment in the world.

INTERNATIONAL HARVESTER

World's largest manufacturer of farm equipment



Through cost-of-production records . . .

he knows what feed makes profits

Earl Neppl knows it takes good cost-of-production records to find out *if* and *how* profits are made in dairying.

This Emmet County, Iowa, dairyman uses records to gauge and guide his profit program —stop losses and add profits— and *knows* where to give credit for those profits.

His records show results with MoorMan's

"Cost of production is what counts in dairying," he says. "And that's why I feed MoorMan's Mintrates* to my dairy cows.

"I've tried several other feeds in seven years I've been milking cows," he continues, "but none of them ever has given me the *results* I get with MoorMan's."

Return over feed cost, $325 per cow

These *results* are recorded in DHIA records for his last testing year. They show total feed cost— including Mintrates—only $1.23 per hundred pounds of milk. As a result, his return over feed cost was a profitable $325 per cow.

The same records show Mr. Neppl's cows are a top-producing herd in the county, averaging 14,750 pounds of milk and 502 pounds butterfat. This is well above the county average of 10,546 pounds of milk and 384 pounds butterfat.

Accurate and complete records will help you, too, pinpoint your profit-makers in milk, meat and egg production. You'll know which feed, which ration, which animals give you the highest dollar return for your investment.

That's why any MoorMan Man will tell you that, if you keep good records, you'll use MoorMan's Mintrates. Their nutrition power will produce feeding *results* that make livestock profits.

MoorMan's*

Since 1885

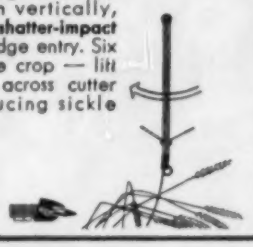
Good Results Through Research and Service

MOORMAN MFG. CO., QUINCY, ILL.

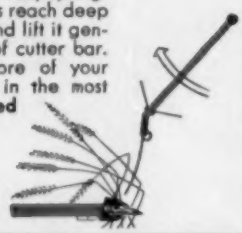
* Trademark Reg. U.S. Pat. Off.

Own A Combine?
for bigger harvests, have it equipped with a
HUME
PICK-UP REEL

1—SAVE SHATTER LOSSES: Narrow edge of bat enters grain vertically, avoiding **shatter-impact** of wide-edge entry. Six bats divide crop — lift it evenly across cutter bar, reducing sickle shatter.



2—SAVE SKIPPING LOSSES: 8" long, curved, spring-steel fingers reach deep into crop and lift it gently ahead of cutter bar. **Picks-up** more of your crop even in the most **down-tangled** condition.



3—SAVE SEPARATION LOSSES: Crop is lifted **across** sickle **onto** header as cut — does not **pile up** on sickle. This even feeding reduces cylinder slugging — provides more complete separation.

EQUIP YOUR NEW OR OLD COMBINE, windrower or forage harvester with a Hume Pick-Up Reel — ahead of the harvest. Hume Reels mean bigger harvests of grain, beans, sorghum. See your dealer now, or write us.

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Specialized Farm Equipment
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Garden City, Kansas

COUNTY AGENT VO-AG TEACHER

SEPTEMBER 1961
Vol. 17 No. 9

THE LEADING MAGAZINE FOR AGRICULTURAL LEADERS

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SULPHUR—a 'Must' for many Plants and Soils

PLANTS CONSUME SULPHUR!

Left—normal tobacco plant, right—plant showing the reduced growth and crimping downward at tips of leaves characteristic of sulphur shortage. Courtesy of American Society of Agronomy and U.S.D.A.

Is sufficient sulphur being restored to the soil for future crops?

Estimates by competent soil scientists indicate that in the United States alone the yearly balance sheet for Sulphur indicates the following deficit:

Annual sulphur take-out	**12,000,000 tons**
Annual sulphur put-back	**9,000,000 tons**
Annual sulphur deficit	**3,000,000 tons**

What is to be done about this surprisingly large and serious loss of Sulphur each year? Plants do need Sulphur. To thrive and produce vigorous crops, they must get it from some source. Otherwise there is bound to be an inferior crop.

There is a need for a revaluation of the role Sulphur and its derivatives play in agriculture, crop area by crop area. To aid in this work, we have prepared a 24-page illustrated brochure discussing some of the many sulphur-deficient crop areas and what can be done about it. We'll be glad to send copies to you and your associates.

TEXAS GULF SULPHUR COMPANY
75 East 45th Street, New York 17, N. Y.
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Sulphur Producing Units: **Newgulf, Texas • Spindletop, Texas**
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ag leaders washington

Latest word from the Capital—by John Hurst and George Peter

Vocational education to expand under manpower training program

THE KEY to the complete role of vo-ag and other vocational education has shifted suddenly to the Administration's Manpower Development and Training Act of 1961. Keep your eye on this program which federal agencies have been gearing up to get rolling for over a month.

It means vocational education systems, including the ag leader's, will have to train on the basis of what the U. S. Labor Department says are needs. The traditional conflict between Health, Education, and Welfare and other federal agencies will be a thing of the past.

Congress has clearly laid down the relationship between HEW and other government agencies in the new manpower training act.

The Labor Department will head up the finding of manpower needs of all kinds. HEW will do all the training. Both agencies will have to work in co-operation with other such necessary agencies as USDA and the Commerce Department, but the leadership of the manpower utilization drive will be under Labor and HEW departments.

FOR THE VO-AG, the training and finding of needs will be done area by area. Within areas, the job will be done county by county. Labor will find out through USDA via local vo-ag leaders what needs to be done. The agents involved will certify needs. Working with the manpower training programmers will be the USDA which has been named to administer the Area Development Act in rural areas.

The Federal Extension Service Administrator will take charge of forming committees in all states. FES and Farmers Home Administration will organize the local economic development programs.

Where HEW hopes to expand vo-ag teaching the most is in the field of farming services. The plan is to open up training for all occupations to the limit. There are no restrictions on funds for vo-ag teaching in the training Act. Vo-ags would be considered the best fitted to train new recruits for the farm services or other related farm occupations where farming experience can count.

Advance estimates—pending a Labor Department count of manpower needs—call for at least $100 million a year. Vocational education is roughly estimated at around an additional $30 million a year above that already appropriated by Congress.

GIVING A MAJOR PUSH to the manpower training program are increased world tension and stepped-up U. S. defense action. Top official planning is tending more and more toward a "readiness" approach to national affairs whether in preparation for possible world crises or domestic economic problems.

A shot in the arm for rural development generally overlooked is $430 million for rural housing development in the new housing law. Appropriations are automatic. Loans at 4% are available to farmers or others in rural areas for farm buildings, repairs, or opening up a local feed or farm implement store.

"What will vo-ags and county agents have to do in the new programs? As one developer told us, "It's going to be a busy year ahead for the ag leader."

Plans for the White House Vocational Education Committee now call for a full report on vo-ag and other vocational education one year from next January. The committee will use the experience gained in expanding vocational education under the manpower training and area development programs in making final recommendations on how to bring vocational training up to date.

KEEP AN EYE on the soybean in discussing new processing methods for crops. A new approach for converting the bean into still bigger markets for the grower was unveiled for ag reporters in Washington and we are passing the news along as something that might bear looking into.

"At our elementary school we emphasize both . . . books and motion pictures."

Says Mr. Alfred Martin, Principal, Parkway Elementary School, Paramus, N. J., selected by the American Association of School Administrators for its exhibit of outstanding school designs:

"Our objective is to introduce as many cultural experiences as possible to elementary school children.

"Consequently, we have a full-time librarian managing our well-stocked library, and we run a full weekly schedule of classroom motion pictures.

"By our emphasis on both books and movies, we gain the interest of the teacher who, in turn, makes them important to her pupils.

"Time was when our Audio-Visual movie program was threatened by teachers apprehensive about using projectors; this has been overcome. They lost their fears when they began using our Kodak Pageant Sound Projector. They and their pupils operate this Kodak projector with no problems."

The Kodak Pageant 16mm Sound Projector contributes as much as the film toward the success of movies in an A-V program, because this projector does nothing to discourage the teacher.

All parts are permanently attached; nothing to assemble but the audience. Threading the film is a matter of following a red arrow printed on the projector. No lubrication to worry about —the Kodak Pageant is permanently oiled when it's built.

Perhaps up-to-date and easy-to-use projection equipment can help make your own Audio-Visual program a more effective one. A Kodak A-V dealer in your locality will demonstrate, without obligation, at your request. Or, if you prefer, write for Bulletin V3-22 which gives full details.

Kodak Pageant Projector 〉 **EASTMAN KODAK COMPANY,** Dept. 8-V, Rochester 4, N. Y.

BIG PROBLEMS

BECOME SMALL

in Waseca County, Minnesota, when farmers join the Farm and Home Management Association

Farmer Gordon Bartel (left) shows Larry Christenson the field sump for his tile line.

By HARLAN STOEHR

FARMER GORDON BARTEL watched with satisfaction as a 5-hp electric drainage pump lifted ground water from a concrete sump and discharged it at the rate of 1450 gpm into a shallow drainage ditch. Across the level 80-acre field on his Waseca County, Minnesota farm, rows of dark green corn rippled gently in a warm late-afternoon breeze.

"Fifteen years ago I trapped 185 muskrats and seven mink on that piece of ground," Bartel remarked. "I was always pretty sure the field could be tiled and farmed—but I didn't have the nerve to go ahead and do it.

"But after we finally joined the Farm and Home Management Association, Larry Christenson sat down and helped us work out our problems and objectives. He steered us to SCS, ASC, and FHA offices to talk over our drainage problems, and it didn't take long to decide that the fastest way to reach our goal was to go ahead with a drainage project. That decision really improved my farming operation."

The Waseca County Farm and Home Management Association, a unique tonic for the farm and home, has been improving farm operations in Waseca County since 1954. It has directly affected some 130 farm families like the Bartels who are now or have been members, and through them has indirectly affected many of the county's 1401 farm families. It could well set the pattern for other areas of the Midwest.

The program began just after 1950, as a result of action by County Agent Cletus Murphy. Murphy, an extension worker since 1934, knew that some types of farm problems could be handled in general meetings, but the most vital problems facing farmers called for individual planning and decisions, especially problems involving long-time family objectives. To be really effective, Murphy reasoned, counsel and assistance to farmers must be conditioned to fit the farm operator and his family, and must consider total family resources, preferences, capabilities, and interests.

From 1945 to 1949 Murphy and S. B. Cleland, extension farm management specialist at University of Minnesota, held a series of farm planning meetings in Waseca county using data from the state's Southeastern and Southwestern Farm Management Services. Both are record-keeping organizations for farmers and operate on a fee basis. Before long, several farmers were so insistent on more planning service that Murphy called a meeting with state extension specialists to work out a farm and home planning project for the county.

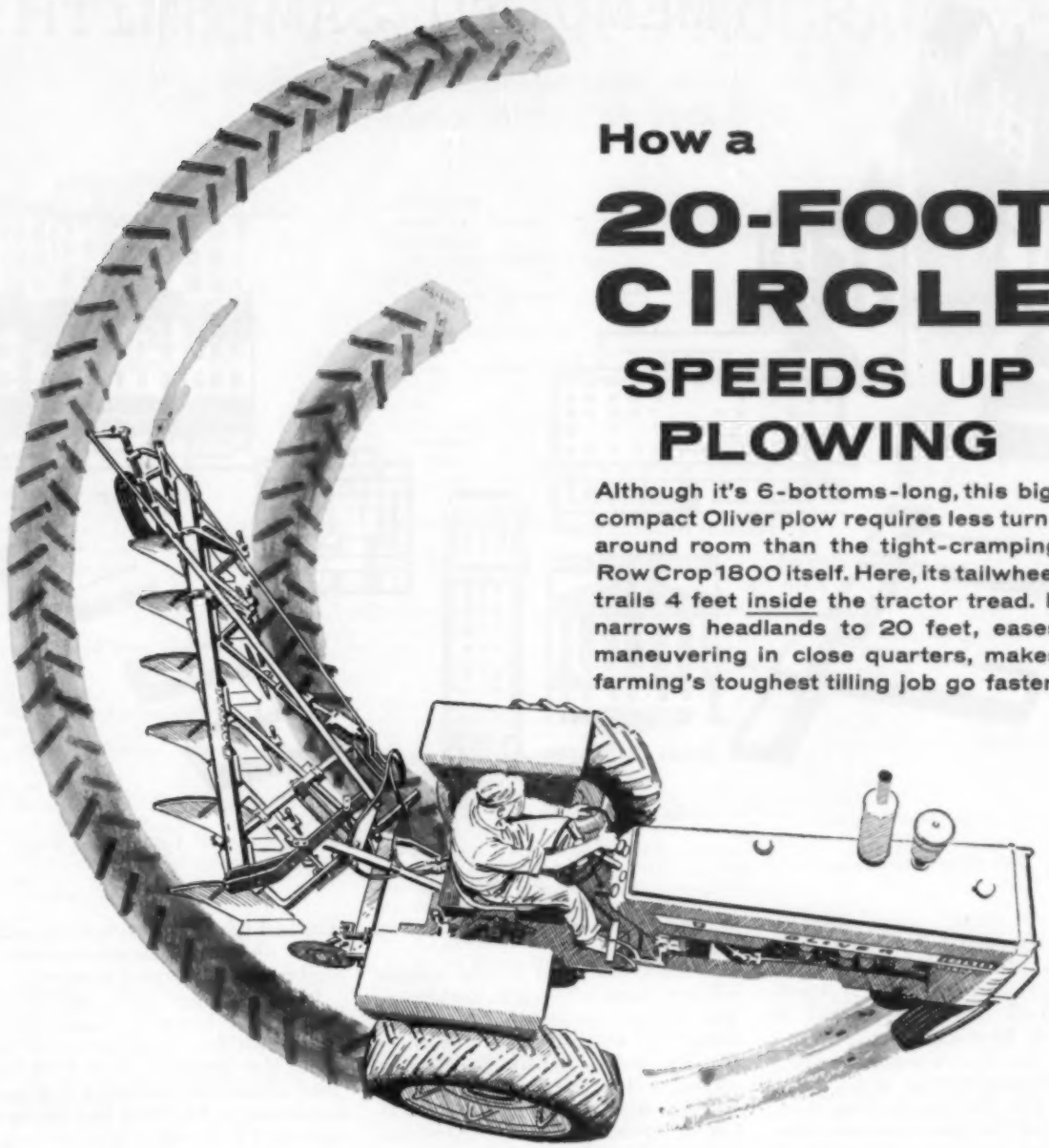
Late in 1950 seven farmers and their wives, mostly members of Minnesota's Southeastern and Southwestern Farm Management Associations, met with the specialists and together outlined a comprehensive planning program covering every phase of farm and home life. There was no set plan at the start—and there still is none today. A long-time planning form was worked out which helps member families crystallize their long- and short-term goals.

Extension specialists soon noticed the difference the personal approach made to the farm families involved in the program. Family members were now working toward a definite goal, and came to have a keen understanding of the financial as well as the physical side of the farm business.

Four new members were added in 1952 and six in 1953. By that time the personnel problem was pressing. The program now demanded more work than already overtaxed county extension

Mr. Stoehr is ass't extension information specialist, University of Minnesota.

(Continued on page 24)



How a

20-FOOT CIRCLE SPEEDS UP PLOWING

Although it's 6-bottoms-long, this big, compact Oliver plow requires less turn-around room than the tight-cramping Row Crop 1800 itself. Here, its tailwheel trails 4 feet inside the tractor tread. It narrows headlands to 20 feet, eases maneuvering in close quarters, makes farming's toughest tilling job go faster.

"Plowmakers for the World" at South Bend, Indiana, found a simple way to steer this new semi-mounted No. 5540 around corners. A pivoting hitch—pulling the plow from a single post at front center to relieve side draft—also controls the tailwheel, swings it into any turn the tractor makes.

Innovations by Oliver reach farther than 100 years into plow history—back to the first chilled moldboard and to the sensational Raydex® plowshare that ended resharpening by village blacksmiths.

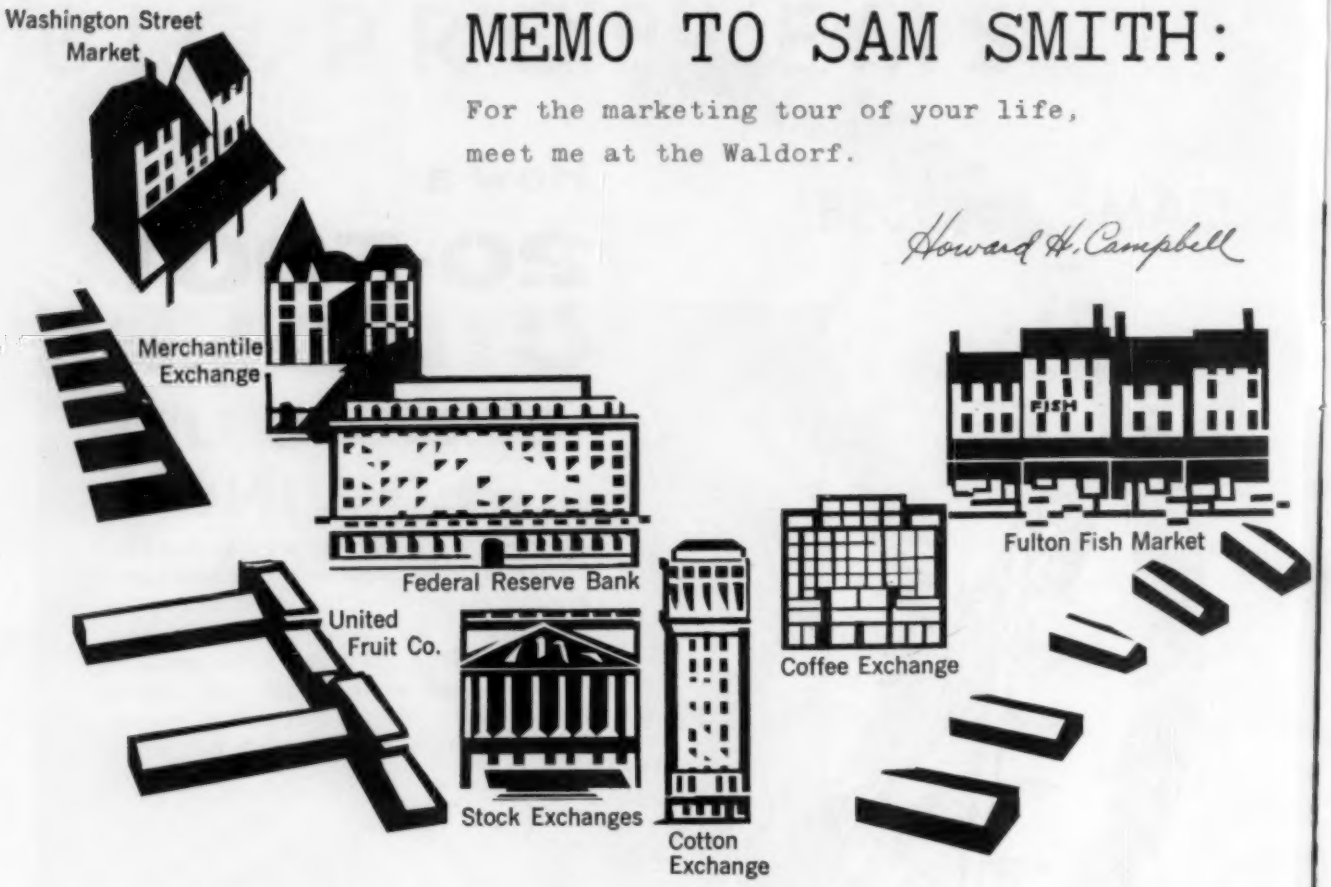
The Oliver organization and its franchised representatives throughout the world are dedicated to making every step in agriculture more efficient and rewarding—from plowing to harvest. For information on up-to-date applications of power and machines in farming, see the Oliver dealer in your community. Also, seek his aid when equipment and shop facilities are needed for educational projects. Oliver Corporation, Chicago 6, Illinois.

OLIVER

MEMO TO SAM SMITH:

For the marketing tour of your life,
meet me at the Waldorf.

Howard H. Campbell



YOU, SAM SMITH, county agent in East Overshoe, Ark., are bound for the annual meeting of National Association of County Agricultural Agents in New York City on September 10 through 14. What a convention it's going to be! You'll be staying at the world-famous Waldorf-Astoria Hotel, headquarters for this year's convention, where 600 of the 2200 rooms have been reserved for county agents and their families at special reduced rates.

It's going to be a real family vacation, too, because your wife and Johnny, Jimmy, and Janie are all going along.

The first thing you'll do after you get settled in your rooms Sunday is register in the Astor Gallery on the third floor of the Waldorf. Then the whole family can go to Rip's Rest, the general hospitality room right in the hotel. Refreshments in the form of farm products from the northeastern states, such as milk, grape juice, apple juice, etc., are the order of the day. And in the evening, Allis-Chalmers is sponsoring a program.

Monday will be an important day starting with breakfast from 7 to 9 am by courtesy of International Harvester Co. Then the actual convention program will get underway—the business session, welcoming speeches, and talks by leading marketing authorities and county agents.

Probably the most famous speaker will be Governor Nelson D. Rockefeller, who will welcome us to his state. Other welcoming addresses will be given by the Honorable Robert F. Wagner, mayor of New York, and Dr. Charles E. Palm, dean of New York State College of Agriculture. B. W. Trierweiler, vice president of our organization, will respond for us all, and Dr. Herrell De Graff, School of Nutrition, New York State College of Agriculture, will give the keynote speech.

Then it'll be time for lunch—on your own—in the Waldorf coffee shop or a nearby restaurant. You may want to sojourn a bit in Rip's Rest afterwards. But be sure to be back for the regional meetings.

They'll last until late afternoon when it'll be time to return to Rip's Rest for some liquid refreshment. After this are committee meetings and the state presidents' dinner. If you're not attending, you'll have a free night.

While you're busy keeping up with the program, don't worry about the wife and children. There'll be special programs for them too.

A nice feature of the convention is that there's free time to enjoy the sights of the big city. Baby sitter service is available from approved agencies.

In your leisure time you can visit some of the historical sites, gardens, parks, churches, monuments, and museums that abound in New York City. Your convention committee has made arrangements for 2000 free tickets to national TV shows.

This is just a sampling of what's ahead for you, Sam, at the 46th NACAA convention. What an opportunity it is to meet this year in the nation's largest market when the theme of the convention program is *Marketing in Action.*

Don't forget to sign up for those marketing tours. Many of them have to be limited in size and you don't want to be disappointed. You'll find at convention headquarters descriptions of each tour being offered and instructions as to the time and place to assemble for each.

Although the aim of the NACAA convention this year is to give you an insight into different phases of marketing, you'll find New York City an experience in itself. One thing is sure, it will help make your attendance at the 1961 NACAA convention an experience you'll never forget.

See you at the Waldorf, Sam!

HERE'S YOUR PROGRAM:

46th annual NACAA meeting, Sept. 10-14, Waldorf-Astoria, New York City.

Flower Market

Sunday, September 10, 1961

10:00 am - 10:00 pm
—Registration
1:00 - 6:00 pm
—Rip's Rest—Hospitality
6:00 - 7:30 pm
—Evening Program sponsored by Allis Chalmers
—Buffet Supper
8:00 pm
—Vesper Services

Monday, September 11, 1961

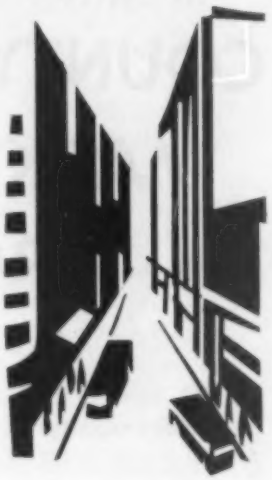
6:00 - 10:00 am
—Registration for late comers
7:00 - 9:00 am
—Breakfast—Courtesy International Harvester Co.
9:30 am
—Business Session—President Howard H. Campbell, presiding
—Group Singing—Ray Bender, County Agent, Essex County, New York
9:40 am
—Invocation
9:45 am
—Welcome to New York City—Honorable Robert F. Wagner, Mayor
9:55 am
—Welcome to New York State—Dr. Charles E. Palm, Dean, New York State College of Agriculture
10:15 am
—Response—B. W. Trierweiler, Vice-President of the National Association of County Agricultural Agents
10:20 am
—Introduction of guests
10:40 am
—Minutes of last Annual Meeting
—Roll call of delegates
—Secretary-Treasurer's report
10:50 am
—Welcome to New York State—The Honorable Nelson D. Rockefeller, Governor of New York
11:10 am
—Address—Dr. Herrell De Graff, School of Nutrition, New York State College of Agriculture, Ithaca, N. Y.
12:20 pm
—Public Information Luncheon
Presiding—Vic Carothers, Chairman Public Information Committee
Toastmaster—Donald J. Wickham, Commissioner of Agriculture & Markets, N. Y.
—Address—Dr. E. W. Janike, Chairman Extension Committee on Organization and Policy, American Association of Land Grant Colleges & State Universities
12:30 - 1:30 pm
—Rip's Rest—Hospitality
1:45 - 3:45 pm
—Regional meetings
1:45 - 3:45 pm
—Old Timers' meeting—Clarence Slack, retired, in charge
4:00 - 5:00 pm
—Squanto Initiation
4:00 - 6:00 pm
—Rip's Rest—Hospitality
4:30 - 5:30 pm
—Committee meetings
4:30 - 5:30 pm
—Nominating Committee
6:30 pm
—State Presidents' Dinner—Carl E. Rose presiding
Evening
—Free time for those not attending Presidents' Dinner
7:00 - 9:00 pm
—Rip's Rest—Hospitality

Tuesday, September 12, 1961

6:00 -10:00 am
—Registration for late comers
7:00 - 9:00 am
—Breakfast—Courtesy Firestone Tire & Rubber Company
9:00 am
—"Farming's New Face," 45 minute film strip by *Successful Farming Magazine*
9:45 am
—Business Session—President Howard H. Campbell
—Group Singing—Ray Bender, Song Leader
—Invocation
9:55 am
—Report by President Howard H. Campbell
10:00 am
—Election of Officers, President-Elect's response, Introduction Vice President Elect, Introduction Secretary-Treasurer Elect, Introduction New Regional Directors Elect
10:30 am
—Report for NACAA Board of Directors
Roscoe Whipp, Director, Northeast Region
10:45 am
—Committee Reports
11:00 am
—Address—R. Sargent Shriver, Director of the Peace Corps Program
12:30 - 1:30 pm
—Rip's Rest—Hospitality
1:30 pm
—"New Horizons in Marketing"—Panel discussion, Dr. John Carew, Professor of Vegetable Crops, Michigan State University, Moderator; panel members, Phil Alampi, Secretary of Agriculture, New Jersey; Howard Nuss, Vice-President Welch Grape Juice Company, Westfield, N. Y.; and Gerald Achenbach, President Piggly Wiggly Sims Chains, Inc., Vidalia, Ga. Questions from the floor
3:00 - 4:30 pm
—Rip's Rest—Hospitality
3:45 pm
—Adjourn
4:00 pm
—Board busses for Pier 81, North River
4:30 - 8:15 pm
—Boat ride around Manhattan Island. Guides will describe New York City buildings and other points of interest. Box dinner served on board
8:15 pm
—Return to Hotel by bus
Evening
—Free time

Wednesday, September 13, 1961

6:00 - 10:00 am
—Registration for late comers



Advertising Agencies
(Madison Ave.)

7:00 - 9:00 am
—Breakfast—Courtesy Ford Tractor & Implement Company
10:00 am - 5:00 pm
—Rip's Rest—Hospitality
All Day
—Marketing Tours
(This part will be furnished by Earle Wilde)
Evening
—Free Time
7:00 - 9:00 pm
—Rip's Rest—Hospitality

Thursday, September 14, 1961

8:00 - 9:00 am
—Breakfast on your own
9:00 - 12:00 am
—Registration for late comers
9:00 am
—Business Session—Howard H. Campbell, presiding
—Group Singing—Ray Bender, leader
—Invocation
10:00 am
—Marketing in Action for Youth, Robert B. Donaldson, P. Glenn Harr
10:15 am
—Walter Kirkpatrick—Report on Charles Pfizer Chemical Co. Scholarships; Dow Chemical Co. Travel Study Tours; and International Minerals & Chemical Company Communication Award winners
11:00 am
—Address—Dr. E. T. York, Administrator Federal Extension Service
11:00 am - 2:00 pm
—Rip's Rest—Hospitality
1:00 pm
—Committee Reports
2:30 pm
—Panel—"New Challenges in Marketing for County Agents"—M. C. Bond, Moderator, Director of Extension, N. Y.; panel members, Dean T. K. Cowden, College of Agriculture, Michigan State University; Marvin Anderson, Associate Director of Extension, Iowa; Bryce Ratchford, Director of Extension, Missouri
4:30 pm
—1962 Committee Meetings
5:30 pm
—Adjourn
6:30 pm
—Annual Banquet—B. W. Trierweiler, Toastmaster Distinguished Service Awards—Paul Barger in charge

COUNTY MARKETING PROGRAMS NEED YOU!

The county agent's role as educator is a vital link in the marketing chain

By HENRY A. HOMME

THE SCOPE REPORT includes the report of the National Marketing Committee of the Extension Committee on Planning, limelighting the mandate to the extension service for providing educational services to the marketing sector of our agricultural economy.

Marketing is a big field, including 10 million employees, thousands of technical processes, thousands of products (it is estimated that almost 6000 new food products are offered to grocery stores each year), many forms of business structures. The whole field is imbued with unprecedented rapidity of change. No one man, agent or specialist, can become expert in more than one small segment of the marketing field.

How can the county agent operate in this area? Here are some suggestions gleaned from a workshop with county agents in North Carolina.

EXTENSION'S ROLE DEFINED

Traditionally the producer, the county agent, the specialist, and the land-grant college are cogs in a two-way communication system. Now enter the new entities—the assembly firm, the processing firm, the distributing firm, the retailer, and myriads of other firms which provide services along the way.

The county agent and the marketing specialist are not a part of this marketing system. They provide educational services! Along the marketing chain go the physical products of the farm. This chain is also a communication channel. In vertically integrated businesses the lines of communication become lines of authority. Lines of communication involving the county agent are isolated from this chain.

County agents have four big problems in working with large marketing firms:

1) The decision-maker may be located somewhere else, perhaps hundreds of miles away, while the agent is tied to the county.

2) The problems are very technical and difficult, and in areas in which county agent training is most deficient.

3) In most areas similar problems emerge so seldom that they can be handled more readily by specialists at the state or national level who are equipped to do so immediately because they have handled such problems previously.

4) A conflict of interest often exists between producer and buyer. Nowadays, this conflict is often bridged by bargaining and contract rather than the impersonal marketplace, and a third party encumbers the bargaining.

THE COUNTY AGENT'S ROLE

Conceding these limitations, what is the county agent's marketing role? I think of this role in terms of four functional areas:

- to know,
- to report,
- to counsel,
- to organize.

Knowing—It is generally assumed that professional people are trained before they go on the job. The level of formal training achieved by most county agents in the area of marketing processes and marketing economics is extremely limited. Just knowing about what happens beyond the farmer's gate is a goal to itself. Is it important?

One can't even advise on production practices these days without knowing what happens to a product on the truck, under what conditions it is handled, the opinions of consumers, the business operations, decision-making procedures, transaction procedures, government regulations, and the arbitrage involved as it moves from the farm to the consumer. The necessity for this knowledge is increasing faster than the administrative channels for achieving it are opening up. Knowledge—a goal in itself and a prerequisite to the other areas of work!

Reporting consumes a large part of a county agent's time. He is the middle link in several reporting channels.

1) Marketing firm to producer.
2) Producer to marketing firm.
3) Producer to specialist.
4) Specialist to producer.

An agent's own knowledge permits him to interpret while reporting. Interpretation is an extremely valuable contribution, but only if correct. This is why knowledge is such an important prerequisite.

Counselling — The technical processes and decision-making processes in most marketing firms usually require specialized abilities above the training level of county agents. Consultation and training in the improvement of such businesses are probably best left at a level which provides one man working full time with similar firms. Such a work area will be different for functionally oriented consultants than it will

Mr. Homme is Marketing specialist, North Carolina State College.

(Continued on page 15)

SUL·PO·MAG® bulletin
NEWS FOR FARM ADVISORS ABOUT SUL-PO-MAG AND OTHER PLANT FOODS

NEW JERSEY RESEARCH SHOWS EXTENSIVE NEED FOR MAGNESIUM

Here's a look at what's new in research at a leading East Coast research center. Results of this research will provide extension specialists and county agents with new information to help fruit growers produce the yields and quality needed for success.

For New Jersey as a whole, magnesium probably ranks next to N-P-K in importance, according to Norman F. Childers, Chairman, Department of Horticulture, Rutgers University. Furthermore, under some conditions it may be the number-one nutrient.

Sulfate of potash-magnesia is a well-known ingredient in fertilizer mixes for the South Jersey horticultural area. In addition to this source of magnesium, dolomitic limestone is being used increasingly to help build up magnesium in the soil.

Magnesium shortage is particularly apparent in crops such as cucumber when spring and early summer periods have been wet. Magnesium may leach readily from light soils. Where the problem of magnesium shortage is readily apparent on cucumber, some growers have been spraying the crop with magnesium sulfate during the growing season to help control the problem.

Two advanced students from Poland are working on nutrition problems of fruit. Dr. Andrzej Sadowski, who already has his Ph.D. from a Polish university, has initiated an experiment with dwarf Delicious apple trees in the greenhouse to study the effect of factorial levels of magnesium and other macro nutrients on the flowering, fruit set, and quality of apples.

Mr. Michal W. Borys, who hopes to receive his Ph.D. this fall, has been determining how potassium chloride and potassium sulfate, as sources of potassium in the nutrient solution, may effect the incidence of peach canker on trees grown in greenhouse sand culture. Peach canker is a serious and limiting disease in the South Jersey peach-growing area. Some research data has shown that potato blight is more serious where potassium chloride has been used in preference to potassium sulfate. And it is thought perhaps the same relationship may occur with the canker disease of peach.

Michal W. Borys (left) and Dr. Andrzej Sadowski (right), two of the distinguished scientists working at Rutgers University on studies of magnesium, sulfate of potash and other problems concerning plant nutrition and fertilizer response. This work is supported in part by IMC's nationwide program, in partnership with agricultural colleges wherein the Company has invested over $1 million to date.

ADMINISTRATION'S FARM PROGRAM ANALYZED BY USDA OFFICIAL

John A. Baker, Director of Agricultural Credit, cited the 1961 Emergency Feed Grain Program as a prime success. The Washington official addressed his comments to an industry-wide Fertilizer Management Seminar held by IMC at its Skokie headquarters.

(continued on next page)

(The SUL•PO•MAG bulletin continued)

As an example, Baker used corn production. He said 1961 corn yields will be below consumption for the first time in ten years, a cut of 700 million bushels, or 18 percent below the 1,891,000-bushel total for 1960.

He pointed out that savings would be made in reduced storage and carrying charges, after cash payments paid or promised to farmers who diverted feed grain acres under the program.

Turning to agricultural shipments abroad, Baker told the fertilizer dealers and distributors at the 3-day seminar, "The government is working to develop larger overseas markets, particularly in nations that are able to pay for our food and fibres with dollars or other hard currencies."

Approximately 70 percent of current overseas agricultural shipments are commercial sales, with only 30 percent going abroad under other programs. Exports during the year ending June 30 totaled $4.9 billion, he added.

WHO EVER HEARD OF SUL-PO-MAG?

What's your estimate of the number of farmers who know about Sul-Po-Mag? The answer--a whopping 76% of fruit and vegetable farmers "know about Sul-Po-Mag." They said so in a recent survey conducted during the Michigan State Horticultural Show.

As you'd expect--farmers who know about Sul-Po-Mag are progressive farmers who have their soils tested frequently. Within the last five years, 90% had sent samples to soils laboratories.

They know a lot more about fertilizer than the ABC's of nitrogen, phosphorus and potash. They list magnesium as the fourth essential plant food element. Then they add calcium, boron, manganese and iron.

The most important single contributor to the farmer's fertilizer familiarity is the County Agent, followed by the fertilizer dealer himself. Even where the fertilizer dealer supplied first facts, indications are that the County Agent added further interpretation and explanation.

County Agents and vo-ag teachers can be proud of their success in educating growers to the values of fertilizers and the function of fertilizer materials. Sul-Po-Mag, for instance, is a double-sulfate of potash. It provides magnesium in the readily available water-soluble form, plus potash in premium combination with sulfur.

Scientific reports show an increasing need for both magnesium and sulfur to obtain highest yields and quality of both fruits and vegetables.

Extension and research agronomists at your landgrant college can give you latest information on their findings so you can "update" grower interest and needs in your county.

SEE YOU AT THE WALDORF

Howard Campbell, President of the National Association of County Agricultural Agents, and his committees are rolling out the giant red carpet of welcome for the September 10-14 meeting in New York City. National agricultural leaders will address the convention, which is dedicated to the overall theme "Marketing in Action."

Governor Nelson D. Rockefeller and Dr. E. T. York, Jr., newly appointed Director of the Federal Extension Service, are convention highlights.

International Minerals & Chemical Corporation appreciates the opportunity of participating in the convention program through the newly established "IMC Scholarship Award for Professional Improvement in Communications" and the appearance of Anthony E. Cascino, Vice President of Marketing.

Marketing is a number-one problem and opportunity facing agriculture. County Agents have an important role in educational and communications processes to help farmers solve the problem. In this spirit, IMC is happy to be among the many business friends of County Agents represented at the convention. See you there!

COUNTY PROGRAMS . . .

(Continued)

be for commodity oriented consultants. An adequate working area also depends somewhat on the scope of a consultant's abilities.

Except for a few counties with a large concentration of nearly homogeneous firms, counties cannot meet these conditions and, therefore, cannot afford marketing specialists.

Of course there are still many producer-distributor operations (although vanishing) and small vendors who receive no notice in commercial marketing operations, and if they are to receive counselling, the county agent is their best bet.

In addition, the county agent is one of the best "straws in the wind" of changes which are imminent or due in the marketing system. Because the actual firm decisions and industry structure decisions are beyond his purvey and his county borders does not lessen his importance one whit. Marketing problems are usually so huge that no one person can ever generate solutions or take credit for such solutions.

Organizing — One of the county agent's most difficult jobs is organization. In marketing, he has many organizational functions. Buying organizations, selling organizations, study committees, organizations to determine farmer opinions, formulation of area development groups, or plain old country store gossip organizations, all come within his field. Some of these may be embryo marketing organizations or parts of a larger entity.

It is in organizing that his knowledge is tested. For the tests of an organization are:

- Will it profit the members?
- Will it advance the industry?
- Will it survive and grow?

Searching one's soul is not sufficient reason to decide whether or not an organization should be born. Knowledge is required and beyond knowledge a gamble with probabilities usually must be postulated. And sometimes beyond probabilities one must reach for a star.

Organizing is no place for small men. Over time, as marketing firms become less and less the slaves of geographical location, the structure of an industry (how each firm fits into an over-all pattern) moves to an area level or a state level or a nationwide level. Thus, marketing programs to an increasing extent must be guided by an area agent, a state specialist, or a federal specialist. The county agent becomes more of a "fitter inner" than an originator.

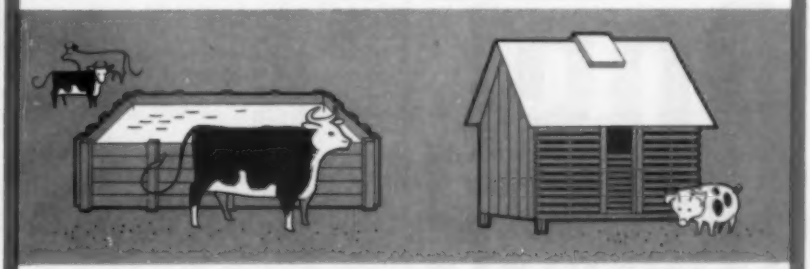
★ ★ ★ ★ ★ ★

Coming Next Month

10th annual Broiler Issue

How Redwood reduces your heating and maintenance costs

In addition to its warm, natural beauty, redwood siding has unique properties that make it a very practical wood for farm homes. Because it provides exceptional insulation (redwood one-inch thick equals concrete 15 inches thick!), savings on heating bills are impressive. What's more, Certified Kiln Dried redwood fortunately combines maximum durability and stability with minimum maintenance. It can be painted, stained or treated with a clear repellent—or even left completely unfinished to weather naturally and beautifully. The attractive redwood home shown above is on the farm of Mr. and Mrs. Henry Boehn, southeast of LaCrosse, Wisconsin.



Remarkable dimensional stability makes redwood ideal for stock tanks which are normally subjected to both wet and dry conditions. It stays put, assures long-term satisfaction and maximum economy.

Highly effective natural resistance to decay and rot gives redwood a definite advantage over other materials used for corncribs. And unlike most woods, redwood imparts no noticeable odor or taste.

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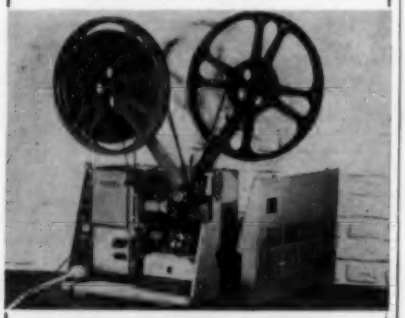

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ag leaders speak up

'WE'RE NOT WITH YOU"

Your editorial on horse collars and things sounds like another old man living in the past. You correctly speak of all the grand and glorious things that extension has done, but the error you make is that you want to keep them that way forever. The only valid reason can be that they are familiar to you and so bring fond memories, they are good.

But extension, like schools, churches, government, industrial organization, etc., must change. An organization has to change to keep up with the needs of the people in a dynamic nation and economy. You talk about extension ducking out on its responsibility because it doesn't operate the same way it did 20 years ago. This doesn't seem very reasonable. It would be ducking out on its responsibility if it didn't change. In fact, I would say if extension doesn't change it will die a slow death.

The role extension should play in the future is different than when it originally began. During the early stages of extension's development, there were hardly any new methods of farming being printed in publications, radio, or newspapers. Therefore, it was necessary for the extension agent to be the community leader and show, motivate, coerce, or use any method he could to get people to adopt new methods of farming.

But today farmers are clamoring for new and better methods of farming. They are constantly searching, even going so far as prodding research people directly to turn out improved methods. The role extension must play in this environment is different than it was during its inception.

The farmer needs information on not only technical but sociological and economic aspects. He needs information on how to better organize his farm and how to adjust it. The adjustment in farming is brought about by the new technology. This has been our weakest area in extension. We have brought farmers all the new technology and have essentially said, "here it is—now use it where it best fits." If this information is supplied by only the professional economist, not many people will receive the knowledge. But we need the vast arm of extension to have a general knowledge in this area so they can inform and help farmers.

Farmers are also interested in the community and how it develops because he has to live in it and it affects the type of life he is going to have. Through change he has been drawn into a larger community than just his immediate neighbors, partly from school reorganization which draws his family closer to the nearby towns.

Now the farm children take part in the larger area activities. The farmer is involved. Activities, like swimming pools, parks, recreation areas, etc., are brought into his sphere. The farmer is not only interested in bigger and better crops, but in ways of obtaining or creating a better life in general. He needs knowledge and help with these things as well as knowledge of soils, agronomy, animal breeding, and diseases. The farmer has become relatively proficient in understanding and adopting new technology in physical sciences but has had much less training in the social sciences.

So, I say, extension must not rest on its laurels and just be content with saying "look what a good job we have done," and "we will continue to do the same job in the future." But, we must find new and better ways to educate farmers. In other words, we must meet extension's *primary* job, that of education.

Many outstanding teachers have stated that the primary function of education is stimulation. They say, if you can create a desire in people to learn, you have made the greatest gain. We have made this step in the technical fields because farmers do search for knowledge in these fields. But, we have neglected the other aspects of education, so let us get at the job.

J. MARVIN SKADBERG
Extension Economist
Iowa State University
Ames

Personally, I feel that the farmer will be influenced more by his church, community organizations, public school, publications, radio and TV than by Extension when it comes to SOCIAL matters. As for the TECHNICAL side, I think that the big job is just beginning! Take the recent study of your own institution's celebrated Bohlen & Beal who found that Iowa farmers have just about everything to learn when it comes to knowledge of farm chemicals! Farmers need help now and always will need help in technical matters. If county agents move into the general education field, farmers will seek technical help elsewhere. That means a tremendous loss of prestige.—EDITOR.

I am amazed that no one disagreed with your May editorial entitled *Beware of the Academic Trap!* At least this is the impression one would get from the letters you chose to print in *Ag Leaders Speak Up* in the July issue. It must give you great satisfaction to have fathered a universally acceptable idea. Lest you lose some of your admirable humility, permit me to cast a dissenting vote. The logic of your position is untenable. Your emphasis seems to be on "subject matter" but in what subject matter should the agent train himself? Will training in animal nutrition, for example, help him answer a question involving horticulture? Further, aren't many of the questions confronting county agents those involving choices between alternatives which have a basis in economics? Maybe an agent can become a specialist in his own right, but will this help him do a better job in view of the wide variety of problems which confront him?

I would like to make one more remark. This is in regard to the "unsigned" letter which you published in the July issue. In my opinion you would have done well not to have published it. A person who does not have the courage of his convictions is not worthy of being heard from, particularly a person who seeks job protection in ". . . a program farm people will buy." The one they will buy may not be the one that will do them the most good.

FRANK J. SMITH, JR.
Extension Economist in Marketing
University of Minnesota

I humbly request that you READ "Ag Leaders Speak Up" in the July issue. You might be "amazed" again in a different way.
—EDITOR.

SPONSORED

Research BULLETIN

COUNTY AGENT
VO-AG TEACHER

REPORT FROM STAUFFER ON EPTAM® AND TILLAM™ SELECTIVE HERBICIDES

SPONSORED BY STAUFFER CHEMICAL COMPANY • 380 MADISON AVENUE • NEW YORK 17, N. Y.

EPTAM is a selective herbicide which is incorporated (mixed) into the soil for control of all annual grassy weeds, certain broadleaf weeds, nutgrass, Johnson grass seedlings and, in many areas, quackgrass. In field tests, TILLAM, a close relative to EPTAM, has shown very effective control of grassy weeds, certain broadleaf weeds and nutgrass in sugar beets and tomatoes.

EPTAM and TILLAM control annual grassy weeds and some broadleaf weeds as they germinate, and inhibit germination of nutgrass tubers. In some cases, weed seedlings may emerge after EPTAM and TILLAM treatment, but they soon die. Each herbicide should be applied to the soil when all weed growth has been turned under.

A WORD ABOUT NUTGRASS

Nutgrass is becoming more of a problem in many sections of the country. It reproduces either by seed or vegetatively by the nut-like tubers. Its vegetative mode of reproduction makes it extremely difficult to control by cultivation.

Research workers discovered that EPTAM controls this weed, enabling crops to be grown and harvested without almost continuous cultivation to keep it under control. Commercial applications have shown growers the value of EPTAM in solving the problem of nutgrass control. Experimental applications of TILLAM have indicated the same control.

SAFETY

1. EPTAM and TILLAM do not build up in the soil or leave residues that are harmful to other crops which might be planted in rotation.

2. They are non-irritating to the skin. No need for protective clothing.

3. They will not corrode equipment and are non-abrasive.

4. Little or no hazard to user in handling or applying EPTAM or TILLAM.

FORMULATIONS

EPTAM 6-E--an emulsifiable liquid formulation containing 6 lbs. active ingredient per gallon.

EPTAM 5-G--a granular formulation containing 5 lbs. active ingredient per 100 lbs. granules.

Other granular formulations are available on request for experimental purposes.

TILLAM 6-E--an emulsifiable liquid containing 6 lbs. active ingredient per gallon.

TILLAM 10-G--a granular formulation containing 10 lbs. active ingredient per 100 lbs. granules.

® Stauffer's Reg. T.M. for an herbicide.
TM Stauffer's trademark for an herbicide.

WEEDS CONTROLLED BY EPTAM

All annual grassy weeds.

Annual broadleaf weeds. These weeds will be controlled if the seeds are ready to germinate at the time of application.

Dead Nettle (Henbit)
Lambs-quarters
Red-root Pigweed
Purslane (Pusley)
Nightshade

Nutgrass: Purple nutgrass, Yellow nutgrass (existing stands of nutgrass must be turned under and chopped up thoroughly before treatment).

Quackgrass: (Existing stands should be turned under and chopped up thoroughly before treatment).

Johnson grass seedlings: (Will not control Johnson grass from rhizomes).

STEPS FOR SUCCESSFUL USE OF EPTAM

1. SOIL PREPARATION

Prepare the soil for seeding according to good agricultural practices. EPTAM is recommended for use only on mineral soils. All weed growth should be thoroughly worked into the soil before treatment for both pre-plant and post-emergence crop application.

2. APPLICATION OF HERBICIDE

Apply EPTAM 6-E as a spray with standard low pressure boom spray equipment. (Do not use single nozzle boom-jet type sprayers.) Spray equipment should be carefully calibrated before use and checked frequently during application to be sure nozzles are free from clogging and delivering a uniform spray pattern. Apply uniformly the recommended rate of herbicide in 20 to 100 gallons of water.

GRANULAR EPTAM: Apply with equipment designed for application of granular herbicides. Equipment should be carefully calibrated before use and checked frequently during application to be sure it is working properly and delivering a uniform distribution pattern.

Whether applying sprays or granules, avoid overlaps that will increase herbicide dosage above recommended limits because plant injury may occur. Do not apply before heavy irrigation. See directions on the label for band applications of EPTAM.

3. SOIL INCORPORATION

It is important that EPTAM be incorporated thoroughly into the soil. This should be done immediately (within minutes) to a depth of 2 to 4 inches. Incorporate 6 inches for quackgrass and nutgrass.

Use the following equipment only for soil incorporation:

1. DISCS: Cross disc (twice at right angles) with disc set at 5 to 6 inches depth. Set deeper than 6 inches for quackgrass and nutgrass control.

2. HOODED POWER-DRIVEN ROTARY TILLER: Set at 2 to 4 inches depth for all weeds except quackgrass and nutgrass. Set as deep as possible for quackgrass and nutgrass.

3. SPIKE-TOOTH HARROW: Cross harrow 2 to 4 times. Teeth should be set to maximum depth. This method of incorporation is not recommended for nutgrass or quackgrass control.

4. CULTIVATION EQUIPMENT: A type that will thoroughly mix soil to the depth specified above. Use ONLY at lay-by or post-emergence (crop) applications. This method of incorporation is not recommended for nutgrass or quackgrass control.

Thorough incorporation increases weed control and decreases the risk of crop injury. Use only the recommended type of equipment and recommended procedure.

4. PLANTING

Crops may be planted or seeded immediately after incorporating EPTAM. Avoid concentrating the treated surface soil over the rows since this will have the effect of increasing the rate of herbicide used and may result in crop injury.

WHEN TO APPLY EPTAM—RATES TO USE

Potatoes

EAST OF ROCKY MOUNTAINS

For Control of All Weeds Listed Except Nutgrass and Quackgrass:

When to Apply	Rate to Use (See label for details)
Before planting or immediately after drag-off.	½ gallon EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre broadcast.
Lay-by: (All weed growth should be thoroughly worked into the soil before treatment.) Do not apply later than four weeks after emergence.	½ gallon EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre broadcast. Apply uniformly between the rows and to the soil under the plants. Incorporate immediately (within minutes) with cultivation equipment.
For Control of Nutgrass:	
Before planting or immediately after drag-off.	⅔—1 gallon of EPTAM 6-E or 80-120 lbs. of EPTAM 5-G per acre broadcast.
For Control of Quackgrass: (in certain areas)	
Before planting.	⅔ gallon of EPTAM 6-E or 80 lbs. of EPTAM 5-G per acre.

WEST OF ROCKY MOUNTAINS

For Control of All Weeds Listed Except Quackgrass:

When to Apply	Rate to Use (See label for details)
Before planting.	½ gallon of EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre broadcast.
For Control of Quackgrass:	
Before planting.	⅔ gallon of EPTAM 6-E or 80 lbs. of EPTAM 5-G per acre.

Alfalfa (Hay and Seed), Birdsfoot Trefoil, Lespedeza

For Control of All Weeds Listed Except Nutgrass and Quackgrass:

Before planting.	½ gallon of EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre broadcast. Temporary stunting may result if conditions for germination and growing are not optimum, but the plants recover rapidly and grow normally. DO NOT GRAZE within 60 days of treatment.

For Control of All Weeds Listed Except Quackgrass:

Before planting.	½ gallon of EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre broadcast. Temporary stunting may result if conditions for germination and growing are not optimum, but the plants recover rapidly and grow normally. DO NOT GRAZE within 60 days of treatment.
For Control of Quackgrass:	
Before planting.	⅔ gallon of EPTAM 6-E or 80 lbs. of EPTAM 5-G per acre.

Beans* (Dry and Snap)

For Control of All Weeds Listed Except Nutgrass and Quackgrass:

DRY BEANS	
Before planting.	½ gallon of EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre broadcast.
SNAP BEANS (Pole and Bush)	
Before planting.	½ gallon of EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre broadcast.
Lay-by: Immediately prior to last cultivation or placing of poles.	Apply ½ gallon EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre uniformly between the rows and to the soil under the plants. DO NOT APPLY after edible parts start to form. DO NOT FEED vines to livestock.
For Control of Quackgrass: (in certain areas)	
Before planting.	⅔ gallon of EPTAM 6-E or 80 lbs. of EPTAM 5-G per acre.

For Control of All Weeds Listed Except Quackgrass:

DRY BEANS	
Before planting.	½ gallon of EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre broadcast.
SNAP BEANS (Pole and Bush)	
Before planting.	½ gallon of EPTAM 6-E or 60 lbs. of EPTAM 5-G per acre broadcast.
For Control of Quackgrass:	
Before planting.	⅔ gallon of EPTAM 6-E or 80 lbs. of EPTAM 5-G per acre.

***EPTAM** will injure black-eyed peas (beans), soybeans, lima beans, and other flat-podded beans, except Romanos.

OTHER CROPS

EPTAM is recommended for use on some other crops in some areas. Check the label in your area for recommendations on safflower, flax, sweet corn, field corn, strawberries, sweet potatoes and others.

WHEN TO APPLY TILLAM—RATE TO USE

TILLAM is presently recommended for experimental application to tomatoes, sugar beets and table beets. Commercial registration is expected for these crops during the 1962 season.

TILLAM is applied pre-plant, and immediately incorporated into the soil at the rate of 4 lbs. active ingredient per acre. Seeding or planting may be done immediately after incorporation. Post-emergence (crop) applications are also suggested for tomatoes and strawberries.

Under experimental conditions, TILLAM has given good control of the following: Watergrass, Foxtail, Crabgrass, Annual bluegrass, Ryegrass, Wild oats, Nutgrass, Red-root Pigweed, Purslane (Pusley) and Lambs-quarters.

HOW STAUFFER PRE-EMERGENCE HERBICIDES HELP GROWERS

1. By applying EPTAM or TILLAM before planting, weeds don't have a chance to rob the crop of moisture and nutrients. This gives seedlings a chance to develop healthy root and stem systems early, which means a stronger, healthier crop that will yield better.
2. Costs are reduced because fewer cultivations are needed.
3. Weed control is insured during wet, rainy weather when the soil can't be worked by cultivation equipment.
4. Damage to crop seedlings from mechanical cultivating is reduced.
5. In the case of potatoes, EPTAM prevents nutgrass rhizomes from penetrating tubers.
6. In legumes, EPTAM eliminates the necessity of a nurse crop. Legumes can develop rapidly and yield earlier, resulting in more hay cuttings and a cleaner, weed-free cut.
7. EPTAM and TILLAM do not build up in soils or leave residues that are harmful to other crops which might be planted in a rotation program.

OBSERVE USE PRECAUTIONS ON THE LABEL. WITH EPTAM OR TILLAM, OR ANY OTHER FARM CHEMICAL, ALWAYS READ AND FOLLOW LABEL INSTRUCTIONS CAREFULLY.

For more information or free copies of this information sheet, write to the address below:

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late research

- *Blood tests on calves may foretell their future*
- *Researcher finds key to larger pig litters*
- *How "tractor jitters" affect farmers*

Weed killers may become growth stimulators. This surprising statement is based on research at University of Illinois which indicates that application of minute amounts of 2,4-D and similar weed-killing chemicals increases yields of the common bean more than 10%.

Vegetable Crop Specialist Joe Vandemark says the amount and time of application are important in using weed killers as growth stimulators. About 1 pound per 1000 acres was used in the tests.

The amount of spray left in a spray can after it is washed, he says, is more than enough to treat one acre. The Illinois tests are continuing to determine whether or not a practical use for the new technique can be developed.

A closer look is being given to cattle blood by University of Wisconsin geneticists and biochemists. They're interested in seeing if various characteristics of red blood cells—factors called blood antigen substances—have any connection with such things as fertility, embryo survival, general health, or milk and fat production.

Genes responsible for producing certain antigens in the blood might also influence other characteristics, researchers believe. If this is so, blood types of calves might be good predictors of their health and performance in later years.

Also, basic findings with cattle blood groups have led to interesting discoveries concerning blood groups of humans. This means there's a great deal of fundamental scientific interest in these studies.

Are 12 to 14 pigs in a litter too many to expect? No, says Animal Husbandman H. L. Self, of Iowa State University—not if a swine producer takes advantage of all available knowledge.

Self points out that litter size is not highly heritable. The increase in litter size is, therefore, to be obtained through management rather than selective breeding.

Increased litter size is important to the farmer's income, Self stresses. A pig in a litter of five has a charge of about $3.75 against him for his dam's feed during gestation. A pig in a litter of 10 has only $1.88 charged against him at farrowing time.

Breeding sows or gilts that are in proper condition to known high-fertility boars at the proper time, along with improved herd management, and sanitation can do more to offset the cost-price squeeze in swine production than any other phase of the swine producer's program.

The role of the lowly bacteria has been under study by W. E. C. Moore at Virginia Polytechnic Institute. Moore points out that nearly every important civilization has been dependent upon a ruminant animal in its economy and these animals are dependent upon bacteria to release food energy from cellulose plant materials.

Ruminants such as sheep, deer, goats, and cattle have a large stomach compartment where billions of bacteria produce enzymes needed to break down cellulose to sugar. The bacteria also produce acids which are absorbed and create energy.

Large numbers of micro-organisms grow in the special ruminant digestion compartment and these, too, are harvested by the animal and digested to provide energy, protein, and even vitamins, says Moore. The bacteria which the animal grows are thus able to provide energy from plant material by changing it to a useful form.

Does tractor vibration affect the operator? The up, down, and sideways movement does influence work performance, according to Psychologist Richard J. Hornick, of Bostrom Research Laboratories.

In experiments on test subjects subjected to vibrations, he found that 1) reaction speed slowed down; 2) ability to steer in a straight track was impaired; 3) peripheral vision (side vision) was narrowed; 4) constant foot pressure on instruments, necessary in many tractor jobs in the field, was affected by vibrations.

Not affected were visual acuity (sharpness) and body equilibrium, Hornick reported.

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During World War I, when arsenicals from Germany were cut off, Abbott Laboratories entered the field. Abbott scientists have since devoted many years to the investigation of arsenical compounds and their role in animal and poultry nutrition. From this research has come the final selection of Arsanilic Acid, chosen for its safety and for its unique value as a low-cost growth and production stimulant.

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After years of practical feeding experience, Arsanilic Acid still stands out as the growth stimulant giving the highest economic return. That's why, in 1961, Arsanilic Acid is a recognized factor in good management.

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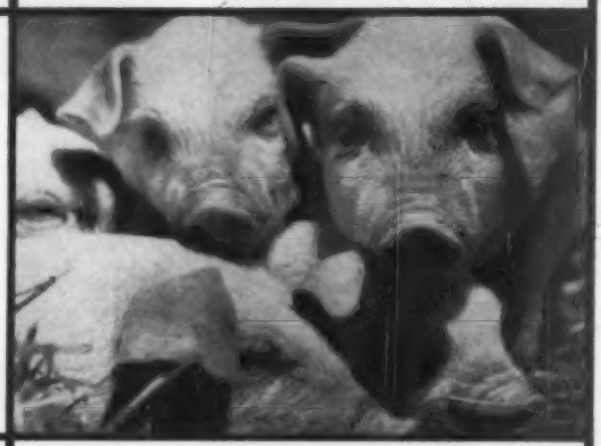
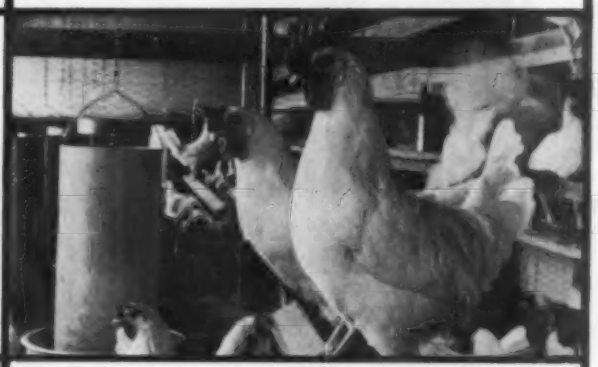
For hog producers—low-cost way to improve hog-feeding results. Good hog feeds—from creep feeds to finishing supplements—fortified with Arsanilic Acid earn extra hog profits. A healthy-looking hog may be suffering from low-level disease. When this happens, poor weight gains result and feed efficiency falls off. Arsanilic Acid combats harmful bacteria . . . helps protect the pig from active disease . . . keeps him gaining at a satisfactory rate.

Years of practical hog feeding trials proved that good hog feeds fortified with low-cost Arsanilic Acid can help earn extra profits. The three-year test averages at Purdue University show that Arsanilic Acid-fed hogs gained over a pound per week more than control hogs. They made 100 pounds of gain on an average of 17 pounds less feed. All together, that amounts to 84¢ extra profit per hog.

For additional literature about Arsanilic Acid—for complete details about this low-cost poultry and livestock profit builder—write to Abbott Laboratories, Chemical Marketing Division, North Chicago, Illinois.



Almost every hog needs Arsanilic Acid! A dime's worth of Arsanilic Acid is all these baby pigs will need—all the way to market! Hogs fed Arsanilic Acid have gained five more pounds per month than control hogs fed the same basic ration without it. Arsanilic Acid helps hogs make bigger gains on a dollar's worth of feed. That means more profit per hog.



Improved production all-year-long for only a few pennies per bird! Arsanilic Acid helps these hens maintain a high rate of egg production throughout all four seasons. In scientific studies, Arsanilic Acid has increased both feed efficiency and egg production. An improvement in feed efficiency of only one-half of one percent pays for the Arsanilic Acid. This amounts to only 2 extra eggs per day from a flock of one thousand hens.

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BIG PROBLEMS . . .

(Continued from page 8)

workers could give it. In order to continue and expand the work in line with the growing demand, a more formal organization and additional help were needed.

Consequently, in 1954 the Waseca County Farm and Home Development Association came into being as a pilot project of University of Minnesota's Agricultural Extension Service. A memorandum of agreement was drawn up with the state extension service and the organization was formally given these objectives:

- To provide a service in farm and home planning and operation to farm families in Waseca county.
- To demonstrate the methods to be used and the practicability and value of such service in the operation of their farm and home business.

Fifty-six members signed up for 1954, and agreed to pay an annual fee of $50. A policy-making committee made up of local and state extension workers and a member of the county extension committee met and hired Ralph Palan, an agriculture teacher from New Richland, in the southeastern corner of the county, as fieldman. Palan returned to teaching in 1958 and was succeeded by Lawrence M. (Larry) Christenson.

Each of the 60 member families in the association today pays an annual membership fee of $95. These fees cover two-thirds of the program's cost. The balance is paid from extension service funds. Since they're standing a big share of the expense, members are anxious to get returns. That's why accomplishments are apt to show up faster here than in educational programs where co-operators experience no direct out-of-pocket expense.

Christenson, who cheerfully admits he's involved in "just about everything that comes up on the farm and on the home," is quick to point out that members set the pace in this organization. "We have no 5-year program, nor even a specific program for a single year," he says. "Our operation isn't supposed to fit everyone, it's geared to the needs of each member family."

This tailored planning service begins with a four-hour get-acquainted visit shortly after a family joins the association. Then the new members fall into the regular schedule of eight farm visits per year—beginning with half-day visits during the winter and continuing with hour visits during the spring, two-hour visits during the summer, and hour visits again during the busy fall season.

Christenson makes extra calls from time to time as needed and members keep in touch with him by phone. Although he's on the go most of the day he averages five or six calls, many of them toll calls from association members who

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need some information *now*. Just to make sure they can compare notes on new farm management practices without delay, seven members families have purchased citizen's band radios and keep in touch with each other via the airwaves.

"Good management is the formula that will get you what you want out of farming," Christenson tells his members. He lists these all-important steps in the management process: 1) Define problems, 2) set objectives, 3) determine alternatives, 4) weigh alternatives and decide, 5) take action, 6) evaluate results.

He works closely with the family in the first three steps, but withdraws completely while the family goes through step four. "It's their money and their future. The best way I can help them is to see that they have every bit of information that will help them wisely decide how to spend it."

He's back again, though, to help with steps five and six. At the time families join the association, they generally aren't used to thinking very far ahead as far as their overall program is concerned. Christenson tries to get them to project their thinking at least 10 years in the future.

What's the farmer like that's willing to put up money for this specialized kind of extension assistance? In Waseca County he fits no pattern. His education may range from eighth-grade level through five years or more of college. His annual gross income may be anywhere from around $10,000 to $50,000 and more. He may be a newlywed or a grandparent. But all are association members for the same reason: to get more out of farming for themselves and their families.

How do you measure progress in such a program? Admittedly, that's a bit of a problem if you figure it has to be measured. Although record keeping is encouraged, it isn't mandatory. Not all dairyman members keep records on their cows and not all members keep accurate books on their farming enterprise for record analysis. But the idea that you must measure with dollar signs doesn't fit the situation either.

"Our main goal is to help the farm family make the improvements they want, and this isn't a thing you measure entirely with charts, graphs, or scales," says Christenson. "How do you measure the satisfaction of a family knowing they've safely arranged the transfer of land from one generation to another—or the closeness of a family drawn together through common goals?"

Whatever a family's goal may be, whether changing farm enterprises to increasing production volume, and so on, Christenson insists that if credit is needed—as it generally is—that the

(Continued on page 28)

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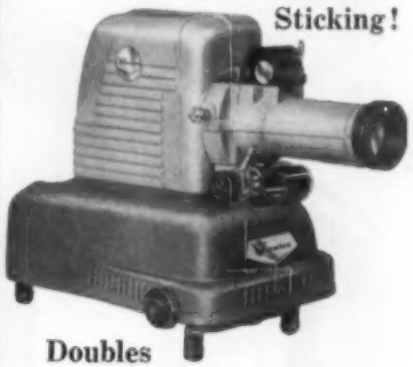

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Dairyman Halter describes his new feeding barn as "simple construction." The truss rafters are 2″ x 6″ nail laminated with 8″ x 16″ West Coast Douglas Fir timbers used for beams placed on top of the poles. Western Red Cedar 1″ x 6″ boards were used for nailing strips to fasten cedar shake roof in place. Siding is 1″ x 12″ cedar. Feeding racks have been built with 2″ x 4″ West Coast Douglas Fir.

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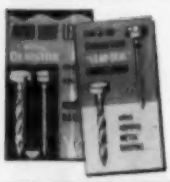

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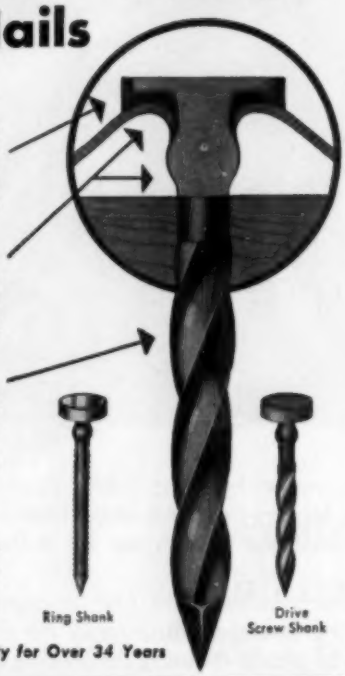

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BIG PROBLEMS

(Continued)

family plan their credit needs, arrange for credit before any changes are begun, and that they use their credit properly.

There's no doubt among members that they're getting their money's worth out of the association. "If we're not, it's our own fault," says member Gene Shepard, who holds a B.S. in agriculture.

Although many families drop their membership after they've worked out their long-range program, 19 of the original members feel the complexities of present-day agriculture make continuing membership more than worthwhile. Ask Ray Routh, who farms a half-section near New Richland, how long he intends to keep up his membership and he answers firmly, "As long as the fieldman keeps coming around."

With increasing demand by farmers everywhere for advisory or planning assistance similar to that offered by the Waseca County association, the experience it has offered may well serve as the basis for organizing farm and home planning in other areas.

A similar organization has recently been established to cover larger farms in a four-county area of northwestern Minnesota. Here Agent William Penning and extension farm management specialists at University of Minnesota hope, through use of bench marks established at the program's beginning, to measure financial progress of association members.

There's no doubt today that a farm and home management association works. Many Waseca county farm families can testify to that. But time limits the number of families which one man can assist. And limited participation raises a question: To what extent can public funds be used to support such individual service to relatively few people?

Equated with this, however, is both the turnover in participants and the transfer of new ideas and know-how to others in a community who may lack the opportunity to be active participants.

But however you look at it, there's a distinct promise of farm and home management as a valuable tool to bring the results of agricultural research to the nation's farm families.

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WATCH THAT TRACTOR!

Bob Durland, extension agricultural engineer at South Dakota State College, warns that most farm accidents are caused by tractors, the most widely used of farm equipment. If the farmer's life is to become a safer one, he says, more attention must be brought to bear on defining man's limitations when it comes to handling farm machinery.

booklet-bulletin reviews

Publications listed on this page may be obtained free of charge by sending a post card request to the company or manufacturer named. Be sure to say you saw it in County Agent & Vo-Ag Teacher.

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on page 30

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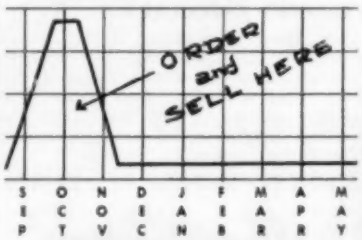

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new ideas and products

BARN CLEANER CONVERSION KITS

If you know a farmer whose barn cleaner is showing signs of wear, here is a novel solution to the problem—a series of barn cleaner conversion kits that enable the farmer to replace basic

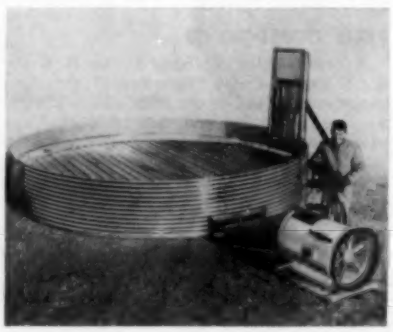
parts of almost any make of continuous motion chain cleaner.

A unique feature is a double-tooth drive sprocket that cuts inside chain link wear in half. A short oval link eliminates binding and chafing on corners.

The basic kit consists of idlers, groove cleaners, drive sprocket, and chain. Get your printed folder on the Cornell Conversion Kits by writing Cornell Manufacturing Co., Laceyville, Pa.

GRAIN STORAGE EQUIPMENT

As you know, it is just good business for farmers to protect their expensive investments in seed, fertilizer, irrigation, and machinery by installing proper



grain storage and conditioning equipment on the farm.

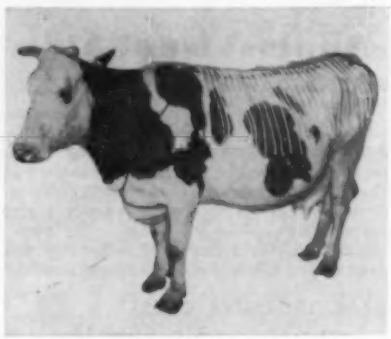
The new Dempster line includes standard size steel grain bins, "Big D" big capacity steel grain bins, and bulk feed bins. The bins are built of heavy gauge galvanized and corrugated sheets in various sizes and capacities.

You will want complete details describing the features of this grain storage equipment line, so why not contact A. A. Sage at Dempster Mill Manufacturing Company, Beatrice, Neb.

NEW REPELLENT APPLICATOR

Farmers can protect their dairy cows, beef cattle, and horses against flies and biting insects with this new applicator. "Reddi-Kill" Harness consists of two hollow tubes from which 28 special wicks hang on both sides of the animal.

The hollow tubes act as reservoirs for the repellent and the wicks as automatic valves to distribute ½ ounce of repellent per day over the animal.



For further information, contact Munray Products, Division Textron, Inc., 12400 Crossburn Ave., Cleveland 35, Ohio.

FARM WELDER

The farmers in your area will want to know about a compact, low-cost general utility welder for farm machinery maintenance which is now available.

Designed for rough farm use and long service life, it can be used for repairing tanks, troughs, and trailers, and for hardsurfacing plows, bailers, and loaders.

The welder will cut mild and stainless steels, cast iron, aluminum, and other

sheet metals. Write to Westinghouse Electric Corporation, Westing-Arc Department, Buffalo 5, N. Y., for a copy of their Bulletin 26-392 which gives full details on the farm welder.

Questions I'm asked about

Dr. G. C. Wallis, recognized authority in the field of Vitamin D₃ nutrition for livestock

Q: Will two to five pounds of good sun-cured hay provide enough vitamin D for my dairy cows?

A: No. Sun-cured hay varies widely and unpredictably in vitamin D content—80 units to 1,250 units per pound have been reported for sun-cured alfalfa hay. Two to five pounds of lower potency hay would provide about 200 to 500 units per cow per day which is insignificant. Even though the hay happened to be high in vitamin D, there would be only a modest contribution made toward the suggested optimum intake of 6,000 to 8,000 units per pound of dairy ration.

Q: How can I check to make sure my dairy cows are receiving enough vitamin D?

A: Good safeguards can be taken but an absolute check is probably not possible. Optimum vitamin D levels for top performance and longevity have not been clearly established but work is in progress. Mild deficiencies are often difficult or impossible to detect but they can be costly. Available information suggests the use of 6,000 to 8,000 units of vitamin D per pound of complete grain ration. Confidence in your feed manufacturer and the good performance of his well-formulated rations would be important for users of commercial feeds.

Q: Is there any danger of my feeds having too much vitamin D?

A: Our recommendations for the vitamin D fortification of feeds are well within the generally recognized safe limits of vitamin D intake for the different species of animals. With careful methods and efficient modern mixing equipment feed manufacturers are able to achieve good distribution of micro-ingredients. The chance of overdosage is remote.

Q: How much vitamin D do baby pigs and growing-finishing pigs need?

A: Early weaning, fast growth, confinement raising, multiple farrowing and other changes have greatly increased nutritional stress factors since the vitamin D requirements of pigs have been carefully studied. Based largely on amounts that have given good results in experimental and practical swine raising programs, a number of Experiment Stations are suggesting about 500 units of vitamin D per pound of milk replacer and starter with somewhat smaller amounts as pigs approach market weight.

Q: Do sheep get enough vitamin D from natural sources?

A: Not always. For instance, in recent English studies lambs from ewes given supplemental vitamin D averaged 6 pounds heavier at weaning in one flock and 9 pounds heavier in another than lambs from ewes given no vitamin D. Fleeces from experimental animals were more than ¼ pound heavier, graded higher, and brought a premium price.

D. C. Wallis

For more complete answers to any of these questions write to Dr. G. C. Wallis, Director of Nutrition, Agricultural Department, Standard Brands Incorporated, 625 Madison Avenue, New York 22, N. Y.

Fleischmann's Fidy Irradiated Dry Yeast
rich in vitamin D for four-footed animals

another fine product of
Standard Brands Incorporated

These educational advertisements tell farmers about

THE IMPORTANCE OF VITAMIN D FORTIFICATION

Sunshine and sun-cured roughages are undependable sources of essential Vitamin D. Farmers and feeders have many questions about Vitamin D fortification. The advertisement illustrated here (one of a series) shows how Dr. G. C. Wallis, recognized authority on Vitamin D nutrition, answers such questions through FIDY advertising in leading magazines.

It's all part of the educational FIDY program to emphasize that today's added stress factors have changed livestock nutrition requirements. More than ever, farmers must be sure that lack of a dependable Vitamin D source is not a limiting factor in their feed.

Be sure to recommend feeds containing FIDY – Fleischmann's Irradiated Dry Yeast. Here is a rich source of Vitamin D_3 that is dependable—and is economical, easy to use, and truly outstanding in dispersion qualities.

And, if your feeders have questions about Vitamin D nutrition, just have them address –

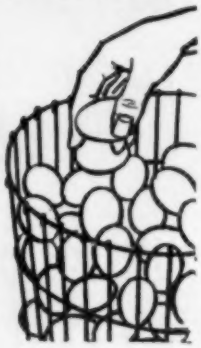
Dr. G. C. Wallis
Director of Nutrition,
Agricultural Department
Standard Brands Incorporated
625 Madison Avenue
New York 22, N. Y.

Free technical data and educational aids are also available from the Agricultural Dept. upon request. Write for request form showing available materials.

Fleischmann's
F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

PILOT BRAND OYSTER SHELL

Helps Put More Eggs in Your Basket



No question about it. PILOT BRAND Oyster Shell helps you get the most eggs with the strongest shells—helps you make more money with your flock. PILOT BRAND is economical, too. Costs about a nickel a year per hen. Always keep PILOT BRAND in the hoppers. It's the ideal eggshell material.

PILOT BRAND OYSTER SHELL

In the bag with the big blue Pilot Wheel—at most good feed dealers.

For Poultry

Oyster Shell Products Company
Mobile, Alabama

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ORGANIZATIONS . . . .

here's a MONEY RAISING item with CHRISTMAS GIFT appeal!

Lovely milkglass Salt & Pepper Set with golden caps, gift boxed, and filled with the World's Finest Pepper . . . . sells on sight at only $1.00.

EARN $50.00 . . . $100.00, easily before Christmas.

All products NOW SHIPPED PREPAID.

Write today for details. No obligation!

MARION-KAY PRODUCTS CO., INC.
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. . READY TO ASSEMBLE

EASY TO MAKE

SADDLE KITS

EASY TO ASSEMBLE
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The only saddle in the world that anyone can complete. Fits your horse and you too! SAVE BIG MONEY! Double rigged, 15" seat, all parts pre-cut, including stirrups. Cheyenne roll, full size fenders, easy instructions.

Write today—FREE 112 PAGE CATALOG.

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P. O. BOX 791—FQ FORT WORTH, TEXAS

ag leaders audio-visuals

news and views by George F. Johnson

ARE you ready for the new audio-visual age?

"Tremendous changes are about to take place in all areas of education. New things are being developed so rapidly that today's teacher is hard pressed to keep up with them all. Many new improvements have contributed to make more effective the presentation of the message to more people in less time. Improvements and good ideas are constantly being developed. What is still to come and where the end is no one knows."

Thus writes Harvey W. Marks, president of National Audio-Visual Association, in *The Educational Screen.* His thoughts were directed to the classroom teachers. Do they apply just as well to the whole educational field in agriculture?

I think so. Recently, I saw actual demonstrations of new devices in the audio-visual presentation that seem fantastic. A still picture that moves! Yes. By means of polarized light and polarized texture screening material, it is possible for skilled technicians to create movement in diagramatic material, cut outs, etc., by moving filters and lights. It can even be done on a screen with a diagram projected on a 2x2-inch slide! The cost is still too high for most ag workers, but it can be done.

Here's something else: a wide angle projection lens. This new lens is just coming on the market. What will it do? It may make rear screen projection more practical for thousands of ag workers for the first time in history. Lenses in most slide projectors used in the past have been "too long" to permit a practical rear screen projection setup in most situations. With remote control, automatic projectors, rear projection screens, and wide-angle lenses, it may be possible to take the noisy projectors away from the center of the audience, fill in the valuable center aisle space, and improve the illustrated slide lecture especially in semi-lighted rooms!

Another development that has gained wide attention is in making large transparencies for overhead projection. Almost any copy can be run through a portable machine and instantly, without special processing, without delay for drying, without much chance for bungling the job, we have material in transparency form for immediate use on an overhead projector.

In this connection, look for big developments in what we might call "on-the-spot visuals." Let me explain. A well-known football coach will use "on-the-spot visuals" in training his team this fall. The portable transparency maker and the overhead projector will go with him to the late afternoon and evening practice field. Errors in play, etc., will be drawn and projected immediately on a screen so the entire team can see clearly all detail. Can ag leaders use anything like this?

Polaroid's 10-second photographs and transparencies are other undeveloped potentials for on-the-spot visualization.

Turning to color visuals, almost half of all amateur photography is now in color. The future promises several more color films and in all probability some reduction in cost of this type of picture making. The new age in audio-visuals will be an age of color. How well do we know colors and how to make colors work for us in exhibits, in slides, in large transparencies, on flannel boards, etc.?

Pennsylvania agricultural and home economics agents studied the latest in radio techniques with the aid of a flannel board during a radio workshop this spring. Pictured left to right: Alice Murray, home economics extension editor; H. R. McCulloch, assistant director of extension; Cordell Hatch, extension radio editor, all of Pennsylvania State University, and John Harris, assistant county agent, Lehigh County.

vo-ag news

James Wall was appointed full-time executive secretary of National Vo-Ag Teachers' Association on July 1. The new address of the association's office is Box 4498, Lincoln, Neb.

AG ED SCHOLARSHIP

A fourth annual scholarship in the field of agricultural education has been announced by the American Vocational Association and Prentice-Hall, Inc. The $500 award will go to a college senior, vo-ag teacher or other qualified college graduate for graduate work in agricultural education.

Marshall F. Grosscup, Jesup, Iowa, and Ronald V. Diggins, Eagle Grove, Iowa, are 30-year men. They were presented awards for 30 years of teaching vocational agriculture during a recent conference for Iowa vo-ag teachers. State Director of Vocational Education Boyd H. Graeber (right) made the presentation at the awards banquet.

★ ★ ★ ★ ★ ★

what's coming up

October 29-November 1. National Agricultural Chemicals Association, 28th annual meeting, The Homestead, Hot Springs, Va.
November 2-3. Pacific Northwest Plant Food Association, annual convention, Hotel Gearhart, Gearhart, Ore.
November 5-9. National Association of County 4-H Club Agents, annual meeting, National 4-H Center, Washington, D. C.
November 17-23. National Farm-City Week.
November 26-30. National 4-H Club Congress, Chicago, Ill.
December 2-8. National Vo-Ag Teachers Association, convention, Kansas City, Mo.

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Dairymen in your territory can earn highest net income with Registered Guernseys. Get all the facts—FREE—and you'll learn why... adaptable, easy-to-handle, efficient Guernseys are the key to highest net dairy profits . . . and the best choice for today's dairymen!

FREE LITERATURE Judging aids, pictures. Literature on Registration, "Profitable Dairying", and Golden Guernsey Milk Business.

WRITE TODAY—

The AMERICAN GUERNSEY CATTLE CLUB
44 Main Street, Peterborough, N. H.

FREE DELAVAN SPRAY GUIDE

Delavan has designed this 'slide rule' spray guide as a ready reference for agricultural spraying authorities. With the guide you can quickly determine how many gallons per hour specific nozzles require, and the pressures needed for a given application rate.

DO YOU CONSIDER NOZZLES WHEN YOU GIVE SPRAYING ADVICE?

Inadequate nozzles can make good spraying equipment look bad. Delavan manufactures a full line of nozzles and accessories — a quality line, designed especially for agricultural applications. Let us send you a catalog with facts about Delavan equipment. Then, compare Delavan with others. When you give spraying advice be sure to consider the advantages Delavan nozzles can offer.

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☐ Please send me the free Delavan Spray Guide.
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in summing up

Preparation for a gabfest

Mr. Sam Smith
County Agent
Court House
East Overshoe, Arkansas

Dear Sam:

With the NACAA meeting about ready to convene, I suppose you're getting ready to pack up your family, some of your stale jokes, et cetera, and make the trek to the Big Town. Well, I'll be "ready" for you, Sam. I think I'll survive the yarns you concoct (What a weapon they'd be against Kruschev—he'd throw in the towel right away!), because your practical slant on current agricultural problems acts as sort of an "antidote" to the other stuff!

After you've had a few rides on the "Sardine Express" (more commonly known as the subway), and won a few bouts with such maladies as *sore neck*, (from constantly looking up), *sore tonsils* (from talking above the roar of the crowd), and of course *sore feet* (no explanation needed) . . . you'll be ready to execute a fast draw for the old stogey. Then the "reorganization of Extension" begins! I think this is what I like about NACAA meetings. Your association serves you well.

I'll be eager to hear what you have to say about one of our "convention specials" this month—County Agent Murphy's farm management program out in Waseca county, Minnesota. ("Big Problems Become Small," page 8).

Is a farm business management program like Murphy's one of the answers to the No. 1 farm problem—low net income?

You know, I heard a terrific "success story" from down in Georgia the other day. F. B. Cates, area extension horticulturist, told us how Extension Service recommendations paid off for one vegetable grower. It's a long story but the gist of it is this:

County Agent Henry Carr called in the area specialist to help raise this particular farmer's profit. The grower was looking for an idea that would help ease the price-cost squeeze. Between Cates and Carr they found it in Nemagon. An extra $20 invested in this chemical, applied to the fertilizer under the rows, brought a staggering $1008 in extra return!

Would more area specialists be the answer to the No. 1 farm problem?

Have you earned that extra degree yet, Sam? You'll remember I asked you about it the last time I saw you. Seems that the college people were a little concerned about it. I believe you said that you didn't think farm folks gave a hang about how many degrees you had. They had other ways of telling whether or not you were qualified. Or something like that.

Do you think degrees will eventually replace experience on the county level, Sam?

Degrees certainly have their place, but the greatest thing about Extension in the past has been the County Agent extending *himself*—his deep reservoir of knowledge, his enthusiasm and down-to-earth way of selling new ideas.

Remember in our last gab fest we were discussing trends. Generally, it isn't smart to buck a trend that's well established. But one of the authors in our next issue (October) is going to try to blast a theory about our "declining farm population." He thinks there have been "some rather dangerous side effects from the misinterpretation and misleading commentaries purporting to give factual analyses of this long-term trend."

Milo Peterson, head of the department of agricultural education at the University of Minnesota, speaking to Indiana vo-ag teachers recently, likened the reduction in number of farms to the trend in number of school districts.

"We had about 100,000 school districts in 1950 and 40,000 in 1960," Milo reports. "Shall we then recommend to school administrators that they prepare to go out of business because the trend shows a decline in numbers of districts and school superintendents needed to run them?"

Then Milo voiced an opinion which may be the rallying point for increased emphasis in vocational agriculture on young and adult farmer programs:

"The fallacy lies in failing to recognize that the extra human resources released from farming for other productive work are available only because of an increasingly efficient agriculture.

"To become so concerned with those who leave the farm that we abandon the foundation stock on which the total structure rests will dry up the stream of progress at its source."

Do you think there's a possibility agricultural experts may become so concerned about our present surplus problem that they'll fail to keep the greatest productive machine in the history of mankind primed for the struggle with Communism that's coming in this arena?

Well, it's refreshing to hear that Vo-Ag is attacking some of these misleading notions about our "farm problem."

We need to keep up our training of present and future farmers, if we're going to beat Kruschev. What do you say, Sam?

See you at the Waldorf!

Gordon L. Berg
Editor

A GRASS-ROOTS STRONGBARN STORY FROM MINNESOTA

"Tough and long-lasting. That's what Strongbarn means to us."

Lloyd "Pete" Peterson
Paynesville, Minnesota

"Here in the Hawick Prairie area, we need the protection of tough, strong steel roofing and siding," reported "Pete" Peterson, leading Minnesota turkey grower and former president of the Minnesota Turkey Growers' Association.

"This is wide-open country and the winds come sailing through. Just a few days ago, we had a pretty high wind and it blew down one of our grain bins. Another time, a wind took the roof off a grain bin and laid it out by the lake. In both cases, it didn't faze our Strongbarn buildings at all.

"We get a lot of snow, too, but not so much the last two years. In 1951, we had a total of 84 inches of snow. In 1956, we had some heavy snows. One of our Strongbarn buildings had a real load of snow on it. It was piled 3′ to 4′ on the south roof, but we had no problem. That Strongbarn stands up fine.

"We used another brand of roofing and siding for one of our buildings, but we didn't like it. It was too soft. We want a tempered steel. That tough-tempered sheet will hold. Strongbarn is way out and above the others.

"We get all kinds of weather . . . wind, rain, snow. The temperature has been as low as 33° below zero, as high as over 100°. Let me tell you . . . Strongbarn is real good. Some of our buildings are seven years old and we have never replaced a sheet. No sign of rust, either.

"As I said before, Strongbarn stands up fine. Just fine."

STRONGBARN

. . . twice as strong as ordinary corrugated galvanized steel roofing and siding of same gage and equal the strength of more expensive, heavier gage steel sheets.

manufactured by GRANITE CITY STEEL CO., Granite City, Ill.

FIRST OWNER REPORTS on John Deere's *New Generation Tractors*

"The "4010" Has Ample Power For All the Work I've Done"

"I've used my new John Deere "4010" Diesel for about 246 hours of plowing, disking, and in combining beans. This "4010" has been used for approximately 340 acres of plowing in 5th gear with a John Deere 555 4-bottom plow working from six to seven inches deep. I teamed the "4010" with a 14-foot "RW" Disk Harrow with 16-inch blades. They make a real hard-working team that helps me accomplish my disking jobs quickly. I like the fast transport speed of the "4010" for moving my equipment from farm to farm in a hurry. I feel the "4010" has ample power for all the work I've done."

EDGAR KEITH, *Burt, Iowa*

"Power and Convenience Convinced Me "3010" Was the Tractor to Buy"

"The power and convenience features of this "3010" Diesel convinced me it was the tractor to buy. I'll get a lot more work done faster and easier. There's a gear for every job, and a reverse in each range means there's a reverse handy whenever you need it. Power steering makes handling so much easier that the tractor seems smaller than my previous tractor. Controls couldn't be in a better location. It's an easy tractor to get used to and one of the most comfortable and convenient tractors I've ever driven."

DEAN SIGNER, *Monroe, Wisconsin*

Your John Deere dealer invites you to drive a New Generation Tractor in the size, model, and fuel type that fits your operation. His convenient Credit Plan will help start this tractor earning for you. See him soon or write for details to:

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